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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND

INTERFERENCES

In re the Application of:

David L. HECHT et al. Group Art Unit: 2876

Application No.: 09/456,105 Examiner: Jamara Franklin

Filed: December 06, 1999 Docket No.: 98704Q4-US-NP

For: OPERATIONS ON IMAGES HAVING GLYPH ADDRESS CARPETS
(As Amended)

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P.O. Box 1450
Alexandria, VA 22313-1450

LETTER

Sir:

Enclosed herewith is an original and two copies of Appellants' Brief on Appeal in the above-identified application.

Please charge any fees associated with the filing of the Brief on Appeal to Xerox Corporation, Deposit Account No. 24-0025. Two duplicate copies of this letter are enclosed.

Respectfully submitted,

Daniel B. Curtis
Attorney for Applicant(s)
Registration No. 39,159
Telephone: 650-812-4259

Date: August 9, 2004

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BRIEF ON APPEAL

Appeal from Group 2876

Xerox Corporation

Daniel B. Curtis
Telephone: (650) 812-4259
Attorney for Appellants

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I. INTRODUCTION

This is an appeal from an Office Action mailed December 19, 2003, finally rejecting claims 7, 13, 15 and 18 – 24 of the above-identified patent application.

A. Real Party in Interest

The real party in interest in this appeal in the present application is Xerox Corporation, by way of an assignment recorded at reel/frame 010583/0089.

B. Statement of Related Appeals and Interferences

There are presently no appeals or interferences, known to Applicant, Applicant's representative or the Assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

C. Status of Claims

Claims 7, 13, 15 and 18 – 24 are pending in this application. Claims 1 – 6, 8 – 12, 14 and 16 – 17 have been canceled from this application.

Pending claims 7, 13, 15 and 18 – 24 are finally rejected in the outstanding Office Action and are on appeal. Of the claims that are on appeal, claims 18 (a method claim), 21 (an apparatus claim) and 24 (a computer program product claim) are independent claims. Claims 19 – 20 and 7 depend from claim 18. Claims 22 – 23, 13 and 15 depend from claim 21. Note that, while claim 23 refers to a computer-controlled method, it should properly refer to an apparatus. No claims depend from claim 24. Claims 7, 13, 15 and 18 – 24 are set forth in the attached Appendix.

D. Status of Amendments

An Amendment After Final Rejection was filed on February 17, 2004 in response to the final Office Action mailed on December 19, 2003. The After-Final amendment amended claim 23 to correct the reference to a "computer-controlled method" (line 1) to be "apparatus", in response to an objection to the claim raised in

the final Office Action. The May 20, 2004 Advisory Action refused entry of the Amendment After Final Rejection in its entirety. Claim 23 as presented in the Appendix is shown in the form it was in at the time the final Office Action was mailed but is discussed as though it were an apparatus claim.

II. SUMMARY OF THE INVENTION

A. Independent Claims 18, 21 and 24

Claims 18, 23 and 24 are respectively directed to a method, apparatus and computer program product for operating on a visible object included in an image disposed on a substrate to produce human-sensible information associated with the visible object. Application specification at page 9, lines 3-17 and Figure 6. This summary of the invention discusses the claimed invention with reference to the elements of independent method claim 18. Since the elements of the apparatus and computer program product claims are substantially similar to the elements of the method claim, the following summary of the claimed invention applies equally to the elements of the apparatus and computer program product claims 21 and 24.

The method begins by receiving image data indicating an image region of an image disposed on the substrate. The image region includes a visible object. The image region further includes coded embedded data forming a uniform background for the visible object. The coded embedded data indicates a location of the visible object in the image disposed on the substrate. Application specification at page 7, lines 10-17 and Figures 2 and 3; application specification at page 9, lines 9-17 and Figure 6; application specification at page 10, lines 7-8; application specification at page 13, lines 3-11 and Figure 10.

The coded embedded data is decoded to produce location data indicating the location of the visible object in the image. Application specification at page 10, lines

1-3 and 7-8; application specification at page 13, lines 3-11 and Figure 10; application specification at page 14, lines 14-19; application specification at page 15, lines 8-10. The description in the application specification beginning at page 22, line 8 and extending to the bottom of page 29, and in particular from page 28 line 5 describing Figure 24, provides a detailed description of one embodiment for decoding the embedded data to determine the location of the visible object in the image.

The location data of the visible object in the image is used to retrieve human-sensible information associated with the visible object. Application specification at page 9, lines 6-17 and Figure 6; application specification at page 10, lines 4-17; application specification at page 30, lines 4-12.

Then, the human-sensible information associated with the visible object is produced on an output device. Application specification at page 9, lines 3-17 and Figure 6.

B. Dependent Claims 7, 13 and 15

Claims 7, 13 and 15 further define the human-sensible information to be a second image. Application specification at page 10, lines 4-14 and Figure 7. In claim 7, the step of producing the human-sensible information further comprises presenting the second image on the output device. *Id.*

Apparatus claim 13 further defines the output device to be a lens apparatus that presents the second image. Application specification beginning at page 13, line 16 and extending to page 15, line 4, with reference to Figures 11, 12 and 13. Apparatus claim 15 further defines the output device to be a display device that presents the second image. Application specification at page 14, lines 17-22.

C. Dependent Claims 19, 20, 22 and 23

Dependent method claim 19 and dependent apparatus claim 22 further limit the coded embedded data to be a pattern of glyphs. Application specification beginning at page 6, line 11 and extending to page 7, line 17, referencing Figures 1 - 3. Claims 19 and 22 also further define the location of the visible object in the image as being encoded in the pattern of glyphs using rows of interleaved and offset address codes. Application specification beginning at page 7, line 21 and extending to page 8, line 7 and Figure 5; application specification beginning at page 21, line 17 and extending to page 22, line 7, referencing Figure 22.

Dependent method claim 20 and dependent apparatus claim 23 further define the coded embedded data as including label data encoded within the rows of interleaved and offset address codes. Application specification beginning at page 7, line 21 and extending to page 8, line 19 and Figure 5; application specification at page 13, lines 10-15. Claims 20 and 23 further define the step of retrieving the human-sensible information to include using the label data to identify the human-sensible information associated with the visible object. Application specification at page 10, lines 4-14 (where the label data is referred to as the context code); application specification at page 13, lines 10-15.

Note that, even though dependent claim 23 in its current form mistakenly refers to a computer-controlled method instead of an apparatus, claim 23 is an apparatus claim that properly depends from claim 21. As noted above, the After-Final Amendment that attempted to correct this claim was refused entry.

III. THE ISSUE ON APPEAL

Whether claims 7, 13, 15 and 18 – 24 are properly rejected under 35 U.S.C. §103(a) over Chang (US 6,256,398 B1), in view of Schuessler (US 5,959,285).

IV. GROUPING THE CLAIMS ON APPEAL

Each claim of this patent application on appeal is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. §282. For convenience in the handling of this appeal, the claims are grouped as follows:

Group I, claims 7, 13, 15, 18, 21 and 24.

Group II, claims 19, 20, 22 and 23.

Each of Groups I-II are argued separately in the following arguments. The groups do not stand or fall together.

V. ARGUMENTS

The final Office Action dated December 19, 2003 finally rejects claims 7, 13, 15 and 18 – 24 under 35 U.S.C. §103(a) as being unpatentable over US Patent 6,256,398 B1 to Chang, (hereinafter, "Chang"), in view of US Patent 5,959,285 to Schuessler, (hereinafter, "Schuessler").

A. The Applied References

1. U.S. Patent 6,256,398 B1 to Chang.

Chang discloses a technique to embed a message in a visual image without obtrusive features that draw attention from the visual image. Column 3, lines 60 – 63. An example is embedding a hyperlink address such as a URL address (web-site address) in an image printed on paper. Column 3, lines 63 – 65. By way of example, Chang discloses the image of pixels displaying the word "Webstar" (i.e., the foreground image) without any embedded message in Figure 7, and having an

embedded message in Figure 8A. The images in Figures 7 and 8A are substantially the same in that the object of the foreground image, the word "Webstar", is still clearly recognizable in Figure 8A. Column 9, lines 56 – 67. In describing the encoding process beginning at column 9, line 47, Chang teaches selecting a glyph block, which contains the image for a viewer's visual recognition and the encoded message (column 10, lines 3 – 6), and glyph block size (column 10, lines 25 – 48).

Chang further appears to suggest that the encoded message may be any message the user wants to encode, with the restriction that the size of the message to be embedded must be a fraction of the size of the glyph block to allow for adequate error correction. Column 10, lines 49 – 58. However, the only types of embedded messages illustrated in the disclosure are web site addresses. See Figures 8A and the discussion at column 9; Figures 14A-E and 14F-J and the discussion at column 20; Figure 17 and the discussion at column 21; and Figures 21A and 21B and the discussion at column 24. In the example illustrated in Figure 21B and described at column 24, lines 39 – 50, Chang discloses that the web site URL decoded from the embedded message is available to be sent to a computer to activate a web browser to download the HTML page identified by the URL.

2. U.S. Patent 5,959,285 to Schuessler

Schuessler discloses an electro-optical memory that includes a substrate on which is printed (or otherwise inscribed) a complex symbol or "label" or "bar code" with a high density two-dimensional symbology utilizing gray coding scheme for at least part of the content. The bar code contains component symbols or "codewords" placed in row and column formation, a variable number of codewords per row, and a variable number of rows. Codewords indicating spatial arrangement are encoded using gray code, and codewords representing actual information are encoded using

any two-dimensional code having at least three subsets of codewords, with each subset containing a full information character set. (Abstract). In effect, the multiple rows of bars and spaces comprise a "stacked bar code". Column 2, lines 64 – 66; see Figure 2. Schuessler discloses that an object of the invention is to increase the information density of a bar coded label. Column 3, lines 26 – 27.

In the background section, Schuessler discusses the known "stacked" two-dimensional bar code, such as PDF417, which uses a row/column spatial arrangement of codewords. In that form of bar code, the information is usually broken up and encoded into individual "codewords" which, when decoded, are used to recompose the encoded information. When a bar code is scanned by a laser scanner or a CCD scanner, the scanner's bar code processing means must be able to determine the relative position of each scanned codeword. Thus, not only must it be able to properly decode the information contained in the codeword, it must also determine where the codeword fits in relation to other codewords within its row and with respect to other rows of codewords. Column 2, lines 3 – 15.

A limiting factor in optimizing the density of "stacked" two-dimensional bar codes is the signal cross-talk between the adjacent rows of bars and spaced, caused by the scanning spot illuminating two adjacent rows. Column 2, lines 16 – 19. In the invention disclosed in Schuessler, each row of bars and spaces contains spatial order indicator patterns (also referred to as row indicators and encoded in gray code), information patterns (the codewords) and a stop pattern (implemented as a single bar module). Column 3, lines 1 – 15. Schuessler teaches that adjacent row cross-talk is minimized by the having each row contain codewords belonging to one of three sequentially alternating codeword clusters and having a correspondence between the row number and the cluster number of the codewords

in a particular row. In a discussion of alternative embodiments in column 8, Schuessler teaches that non (n,k) gray code could be used for encoding the relative spatial positions of the corresponding codewords, and other cross-talk minimizing arrangements of codes, other than gray codes could be used for encoding the relative spatial positions of the corresponding codewords. Column 8, lines 39 – 43.

B. Claims 7, 13, 15, 18, 21 and 24 are Not Obvious over Chang in View of Schuessler

Claims 7, 13, 15, 18, 21 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chang in view of Schuessler.

1. The asserted combination of references fails to teach the claimed invention.

In rejecting claims, the Patent Office bears the initial burden of persuasion in establishing a *prima facie* case of obviousness. To achieve this, the Patent Office must show three criteria: a suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine teachings; a reasonable expectation of success; and that the prior art must teach or suggest all claimed limitations. See In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See also MPEP §2143.

Independent claim 18 recites, *inter alia*, that "the coded embedded data indicating a location of the visible object in the image disposed on the substrate," "decoding the coded embedded data to produce location data indicating the location of the visible object in the image," and "retrieving human-sensible information associated with the visible object using the location data."

In the final Office Action mailed December 19, 2003, the Office Action admits that Chang lacks the teaching of "the coded embedded data indicating a location of the visible object in the image disposed on the substrate." (See the Office Action,

page 3.) For this deficiency, the Office Action relies on Schuessler (col. 8, lines 39-41), which discloses that non (n,k) gray code could be used for encoding the relative spatial positions of the corresponding codewords.

Applicants respectfully submit that the recited passage in the Schuessler reference does not teach "the coded embedded data indicating a location of the visible object in the image disposed on the substrate", but rather speaks to a technique for encoding a position of a codeword (one of the elements of the 2D bar code) within the 2D bar code relative to the row the codeword is, in order to minimize adjacent row cross-talk. As noted above, Schuessler teaches that it was known in the art that in order to decode 2D bar codes, the scanner's bar code processing means must be able to determine the relative position of each scanned codeword, i.e., where the codeword fits in relation to other codewords within its row and with respect to other rows of codewords. Column 2, lines 9 – 15. The invention taught in Schuessler uses row indicators encoded using gray code which reduces interrow cross-talk noise. Column 3, lines 8-9 and 19-20. The passage cited in the Office Action simply refers to another embodiment in which the row indicators are encoded in a non (n,k) gray code.

Assuming for the sake of argument herein that the 2D bar code itself is interpreted to be the visible image of claims 18, 21 and 24, the row indicator encodings in Schuessler encode the relative positions of the codewords within the 2D bar code; this encoded data does not indicate the location of the 2D bar code in the image disposed on the substrate. Therefore, Schuessler does not supply the subject matter admitted as lacking in Chang, and Applicants respectfully submit that the mere reference to a "location" of "codewords" does not satisfy the requirement

that the prior art must teach all of the claimed limitations in order for the Patent Office to meet its burden of establishing a *prima facie* case of obviousness.

2. There is no motivation or suggestion in the prior art to make the asserted combination of references.

Even if the Board were to find that the Schuessler reference teaches the claim element missing in the Change disclosure, the Patent Office still bears the initial burden of showing the remaining two criteria of a *prima facie* case of obviousness: a suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine teachings, and a reasonable expectation of success.

The reason to make the asserted combination of references must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness.

The Examiner draws a conclusion that "one of ordinary skill in the art would have readily recognized that having the Chang code indicate the location of the visible object would have been beneficial for saving time and energy needed to locate the image." (See the Office Action, page 3.)

Applicants respectfully disagree with the Examiner's rationale for making the asserted combination with respect to claims 7, 13, 15, 18, 21 and 24. First, the Examiner's conclusion presumes that the decoding technique disclosed in Chang has a need for data indicating the location of the visible object in the image. However, as discussed above, the data decoded directly from the embedded glyphs in Chang is the URL associated with the visible message string (visible object), and not data indicating the location of the message string or other image. In Chang, it is the URL obtained directly from the embedded glyph data, and not the location of the visible object, that provides the ability to retrieve a web page associated with the message string.

A showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232(Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." See Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). The Examiner fails to state where the motivation or suggestion to make the asserted combination is found in the prior art. Since the Chang disclosure does not teach or suggest a need to have data indicating the location of the visible object, the modification of the Chang reference suggested by the asserted combination involves decoding data indicating the location of the message string in the visible image, using the location data to somehow(?) obtain the URL, and then obtaining a web page using the URL. No motivation or suggestion has been provided as to why a person of ordinary skill in the art would want to modify the technique disclosed in

Chang in this manner; indeed, such a modification would be more inefficient as compared to the technique disclosed in Chang.

Moreover, simply modifying the Chang reference to decode data indicating the location of the message string in the visible image would result in an inoperable technique: based on the Chang disclosure, the location data alone of the visible object is not sufficient to produce the URL.

Prior art must be viewed prospectively and not retrospectively using the specification as a blueprint to reconstruct the invention by indiscriminately picking and choosing parts and bits from the prior art. See, for example, Grain Processing Corp. v. American Maize-Products Co., 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988) ("Care must be taken to avoid hindsight reconstruction by using 'the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.' "). See also In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."). This is because "[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W. L. Gore Associates Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. Denied*, 469 U.S. 851 (1984).

It would appear that the proposed combination of the Chang and Schuessler references relies on hindsight to construct Applicants' invention. The need to have an encoding of the spatial positions of the codewords relative to the rows is specific

to successfully decoding the 2D bar code in Schuessler; there is no similar need or motivation to replace, or even augment, the direct encoding of the URL in the embedded glyph code around the visible object in Chang with embedded data that indicates a location of the visible object. Applicants respectfully submit that the Office Action has not met its burden of establishing a *prima facie* case of obviousness in its rejection of claims 7, 13, 15, 18, 21 and 24.

Accordingly, independent claims 18, 21 and 24 are not obvious over Chang, either alone or in combination with Schuessler. The applied references also fail to render obvious the subject matter of dependent claims 7, 13 and 15, which depend from base claims 18 and 21 and are allowable at least for their dependence thereon and for the additional features recited therein.

Reversal of the rejection of claims 7, 13, 15, 18, 21 and 24 under 35 U.S.C. §103(a) is therefore respectfully solicited.

C. Claims 19, 20, 22 and 23 are Not Obvious over Chang in View of Schuessler

Claims 19, 20, 22 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chang in view of Schuessler.

In view of the remarks above with respect to the patentability of claims 18, 21 and 24, dependent claims 19, 20, 22 and 23 are allowable at least for their dependence on their respective base claims.

In addition, however, Applicants respectfully submit that dependent claims 19, 20, 22 and 23 are allowable for the additional features recited therein, and because the Office Action fails to meet its initial burden of persuasion in establishing a *prima facie* case of obviousness. As noted above, to establish the *prima facie* case, the Patent Office must show three criteria: a suggestion or motivation, either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine teachings; a reasonable expectation of success; and that the prior art must teach or suggest all claimed limitations.

Examination of the December 19, 2003 Office Action will show that there are no showings on the written record of the teachings of the elements of these dependent claims. With respect to claims 19 and 22, the Office Action fails to state the portion of either the Chang or Schuessler references that discloses the use of a pattern of glyphs using rows of interleaved and offset address codes. No mention could be found of rows of interleaved and offset address codes in the very detailed description of the formatting of the embedded data used in Chang (see e.g., cols. 4 – 14 and accompanying figures.) Since the Schuessler reference is a visible 2D bar code, it does not teach encoding the location of the visible object in the image in a pattern of glyphs using rows of interleaved and offset address codes.

With respect to claims 20 and 23, the Office Action fails to state the portion of either the Chang or Schuessler references that discloses the use of a pattern of glyphs using rows of interleaved and offset address codes that also encodes label data in addition to the location data. As noted above, no mention could be found of rows of interleaved and offset address codes in the very detailed description of the formatting of the embedded data used in Chang (see e.g., cols. 4 – 14 and accompanying figures.) Chang also very specifically discloses the encoding of a URL and makes no specific mention of another type of data (e.g., label data) that is encoded in the pattern of glyphs. Since the Schuessler reference is a visible 2D bar code, it does not teach encoding either the location of the visible object in the image

or label data in the pattern of glyphs using rows of interleaved and offset address codes.

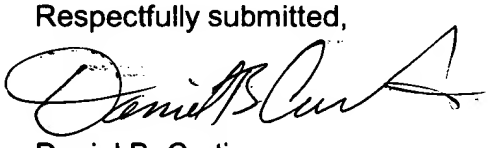
Reversal of the rejection of claims 19, 20, 22 and 23 under 35 U.S.C. §103(a) is therefore respectfully solicited.

VI. Conclusion

For at least the reasons discussed above, it is respectfully submitted that claims 7, 13, 15 and 18 – 24 contain patentable subject matter and are distinguishable over the applied references.

Applicant respectfully requests the Honorable Board to reverse the final rejection of the claims and return the application to the Examiner to pass this case to issue.

Respectfully submitted,



Daniel B. Curtis
Attorney for Applicant(s)
Registration No. 39,159
Telephone: 650-812-4259

Date: August 9, 2004

Attachment: Appendix of Claims

APPENDIX

CLAIMS:

7. The computer controlled method of claim 18, wherein the human-sensible information is a second image and the step of producing further comprises presenting said second image on the output device.

13. The apparatus of claim 21, wherein the human-sensible information is a second image associated with the visible object and the output device is a lens apparatus that presents the second image.

15. The apparatus of claim 21, wherein the human-sensible information is a second image associated with the visible object and the output device is a display that presents the second image.

18. A computer controlled method for operating on a visible object included in an image disposed on a substrate to produce human-sensible information associated with the visible object, the method comprising:

receiving image data indicating an image region of the image disposed on the substrate; the image region including the visible object and further including coded embedded data forming a uniform background for the visible object; the coded embedded data indicating a location of the visible object in the image disposed on the substrate;

decoding the coded embedded data to produce location data indicating the location of the visible object in the image;

retrieving human-sensible information associated with the visible object using the location data; and

producing the human-sensible information associated with the visible object on an output device.

19. The computer-controlled method of claim 18 wherein the coded embedded data is a pattern of glyphs, and wherein the location of the visible object in the image is encoded in the pattern of glyphs using rows of interleaved and offset address codes.

20. The computer-controlled method of claim 19 wherein the coded embedded data further includes label data encoded within the rows of interleaved and offset address codes; and wherein retrieving the human-sensible information further includes using the label data to identify the human-sensible information associated with the visible object.

21. An apparatus for operating on a visible object included in an image disposed on a substrate to produce human-sensible information associated with the visible object, said apparatus comprising:

a frame grabber configured to receive image data indicating an image region of the image disposed on the substrate; the image region including the visible object and further including coded embedded data forming a uniform background for the visible object; the coded embedded data indicating a location of the visible object in the image disposed on the substrate;

a decoder configured to decode the coded embedded data to produce location data indicating the location of the visible object in the image;

a data access mechanism configured to retrieve said human-sensible information associated with the visible object using the location data; and

an output device configured to produce said human-sensible information associated with the visible object.

22. The apparatus of claim 21 wherein the coded embedded data is a pattern of glyphs and the location of the visible object in the image is encoded using rows of interleaved and offset address codes, and wherein the decoder produces the location data indicating the location of the visible object in the image by extracting the location data from the rows of interleaved and offset address codes.

23. The computer-controlled method of claim 22 wherein the coded embedded data further includes label data encoded within the rows of interleaved and offset address codes; and wherein the data access mechanism uses the label data to identify the human-sensible information associated with the visible object.

24. A computer program product including a computer readable medium having computer readable code embodied therein for causing a computer to operate on a visible object included in an image disposed on a substrate to produce human-sensible information associated with the visible object, the computer program product comprising:

computer readable program code configured to cause said computer to receive image data indicating an image region of the image disposed on the substrate; the image region including the visible object and further including coded embedded data forming a uniform background for the visible object; the coded embedded data indicating a location of the visible object in the image disposed on the substrate;

computer readable program code configured to cause said computer to decode the coded embedded data to produce location data indicating the location of the visible object in the image;

computer readable program code configured to cause said computer to retrieve human-sensible information associated with the visible object using the location data; and

computer readable program code configured to cause said computer to produce the human-sensible information associated with the visible object on an output device.